

RMS-030US
Preliminary Amendment Dated November 29, 2004

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Amendments to the Claims: This listing of claims will replace all prior versions, and listings, of claims in the application

Listing of Claims:

1. (Currently Amended) A method for isolating a power line distributions distribution having a power conductor and a neutral conductor to aid in fault distribution detection comprising the steps of:

identifying at least one segmentation point in the power line distribution; and

installing coupling an impedance in device to at least one of the neutral conductor or the power conductor at the at least one segmentation point to isolate the segment of the power line distribution.
2. (New) A method according to claim 1, wherein the step of coupling the impedance device to the at least one of the neutral conductor or the power conductor includes inserting an inductor in series with the at least one of the neutral conductor or the power conductor.
3. (New) A method according to claim 2, wherein the step of inserting the inductor in series with the at least one of the neutral conductor or the power conductor includes the step of inserting the inductor in series with the neutral conductor proximate to a connection between the neutral conductor and a connection to earth ground.
4. (New) A method according to claim 1, wherein the step of coupling the impedance device to the at least one of the neutral conductor or the power conductor includes coupling a ferrite element concentric with the at least one of the neutral conductor or the power conductor.

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5. (New) A method according to claim 4, wherein the step of coupling the ferrite element concentric with the at least one of the neutral conductor or the power conductor includes the step of coupling the ferrite element around the neutral conductor proximate to a connection between the neutral conductor and earth ground.

6. (New) A method according to claim 1 wherein the power line distribution is a relatively long power line distribution and the step of coupling the impedance device to the at least one of the neutral conductor or the power conductor includes the step of coupling a plurality of impedance devices to the at least one of the neutral conductor or the power conductor at points along the power line distributions that are separated by a length suited for a fault distance indicator to segment the power line distribution and installing one of the fault distance indicators in each segment.

7. (New) A method according to claim 1, wherein the power line distribution includes at least one branch power line distribution having a branching point and the step of coupling the impedance device to the at least one of the neutral line or the power line includes coupling the impedance device to the branch in the power line distribution proximate to the branching point.

8. (New) A method according to claim 1, wherein the power line distribution is an underground power line distribution and the step of coupling the impedance device to the at least one of the neutral conductor or the power conductor includes the step of coupling the impedance device to the at least one of the neutral conductor or the power conductor proximate to a connection between the power line distribution and an underground feed point.

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9. (New) A method according to claim 1, wherein the step of coupling the impedance device to the at least one of the neutral conductor or the power conductor includes the step of coupling a reactor in series with the power conductor.

10. (New) A method according to claim 1, wherein the step of coupling the impedance device to the at least one of the neutral conductor or the power conductor includes the step of coupling the impedance device that exhibits relatively high impedance in the frequency range of 10 KHz to 1MHz and exhibits relatively low impedance in a frequency range less than 100 Hz.

11. (New) A power distribution system including a power conductor and a neutral conductor comprising:

at least one impedance device coupled to at least one of the power conductor or the neutral conductor to segment the power distribution system into at least two segments; and

at least two fault distance indicators coupled to the at least two segments, respectively.

12. (New) A power distribution system according to claim 11, wherein the at least one impedance device includes at least one inductor connected in series with the at least one of the neutral conductor or the power conductor.

13. (New) A power distribution system according to claim 12, wherein the at least one inductor is coupled to the neutral conductor proximate to a connection between the neutral conductor and earth ground.

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14. (New) A power distribution system according to claim 11, wherein the at least one impedance device includes at least one ferrite element concentric with the at least one of the neutral conductor or the power conductor.

15. (New) A power distribution system according to claim 14, wherein the at least one ferrite element is coupled to the neutral conductor proximate to a connection between the neutral conductor and earth ground.

16. (New) A power distribution system including a power conductor and a neutral conductor including a main section and at least one branch section that connects to the main section at at least one branching point, the power distribution system comprising:

at least one impedance element coupled to the at least one branch section proximate to the at least one branching point;

a plurality of fault distance indicators the fault distance indicators being coupled to the main section and to the at least one branch section, respectively.

17. (New) A power distribution system according to claim 16, wherein the at least one impedance element includes at least one inductor connected in series with the at least one of the neutral conductor or the power conductor.

18. (New) A power distribution system according to claim 17, wherein the at least one inductor is coupled to the neutral conductor proximate to a connection between the neutral conductor and earth ground.

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19. (New) A power distribution system according to claim 16, wherein the at least one impedance element includes at least one ferrite element concentric with the at least one of the neutral conductor or the power conductor.

20. (New) A power distribution system according to claim 19, wherein the at least one ferrite element is coupled to the neutral connector proximate to a connection between the neutral conductor and earth ground.